

## WHAT IS CLAIMED IS:

## 1. A stimuable phosphor sheet comprising:

a stimuable phosphor layer containing a europium-activated cesium bromide based stimuable phosphor as a main ingredient, said stimuable phosphor layer being formed by a vacuum film forming technique; and

a substrate supporting said stimuable phosphor layer,

wherein a maximum intensity of emission that is generated in a wavelength range of 490-510 nm when said stimuable phosphor layer is exposed to electron beams is lower than a maximum intensity of the emission generated in a wavelength range of 440-460 nm.

## 2. The stimuable phosphor sheet according to claim 1, further comprising:

a reflective film formed between said substrate and said stimuable phosphor layer, said reflective film for improving efficiency of emergence of stimulated light emission.

## 3. The stimuable phosphor sheet according to claim 2, wherein said reflective film is a thin film made of one of

Al, Al alloys, Ag and Ag alloys, and a film thickness of said reflective film ranges from 0.01  $\mu\text{m}$  to 5  $\mu\text{m}$ .

4. The stimuable phosphor sheet according to claim 2, further comprising:

a barrier film formed between said reflective film and said stimuable phosphor layer, said barrier film for preventing said reflective film.

5. The stimuable phosphor sheet according to claim 4, wherein said barrier film is a thin film made of one of silicon oxides, titanium oxides, silicon nitrides, cerium oxides and magnesium fluorides, and a film thickness of said barrier film ranges from 0.01  $\mu\text{m}$  to 5  $\mu\text{m}$ .

6. The stimuable phosphor sheet according to claim 1, further comprising:

a barrier film formed on said stimuable phosphor layer, said barrier film for preventing said stimuable phosphor layer.

7. The stimuable phosphor sheet according to claim 6, wherein said barrier film is a thin film made of one of silicon oxides, titanium oxides, silicon nitrides, silicon

oxynitrides, cerium oxides and magnesium fluorides, and a film thickness of said barrier film ranges from 0.01  $\mu\text{m}$  to 5  $\mu\text{m}$ .

8. The stimuable phosphor sheet according to claim 1, wherein said stimuable phosphor layer is a layer containing as said main ingredient a cesium bromide based stimuable phosphor using europium as an activator, and a molarity ratio between said activator and said cesium bromide based stimuable ranges from 0.0005:1 to 0.01:1.

9. The stimuable phosphor sheet according to claim 1, wherein a film thickness of said stimuable phosphor layer ranges from 50  $\mu\text{m}$  to 1000  $\mu\text{m}$ .

10. The stimuable phosphor sheet according to claim 1, wherein said maximum intensity of the emission generated in the wavelength range of 490-510 nm is equal to or lower than 70% of said maximum intensity of the emission generated in the wavelength range of 440-460 nm.

11. The stimuable phosphor sheet according to claim 1, wherein said maximum intensity of the emission generated in the wavelength range of 490-510 nm is equal to or lower

than 50% of said maximum intensity of the emission generated in the wavelength range of 440-460 nm.

12. A stimuable phosphor sheet comprising:

a stimuable phosphor layer containing a europium-activated cesium bromide based stimuable phosphor as a main ingredient; and

a substrate supporting said stimuable phosphor layer, wherein a maximum intensity of emission that is generated in a wavelength range of 490-510 nm when said stimuable phosphor layer is exposed to electron beams is lower than a maximum intensity of the emission generated in a wavelength range of 440-460 nm, and

said stimuable phosphor layer is formed by a vacuum film forming technique comprising:

a step of evaporating both of europium and cesium bromide by using a resistance heating in a film forming system; as well as

a step of performing evaporation under an evaporation atmosphere in a range of 0.01-3Pa to form said stimuable phosphor layer in said film forming system.

13. The stimuable phosphor sheet according to claim 12, wherein said vacuum film forming technique further comprises:

a step of heating said substrate during said evaporation; and

a step of annealing said stimuable phosphor layer after it was formed on said substrate.

14. The stimuable phosphor sheet according to claim 13, wherein a heating temperature for heating said substrate is in a range of 120-250°C and a heating temperature for annealing said stimuable phosphor layer is in a range of 150-250°C.